

REMARKS

Claims 1-33 and 37-40 are in the instant application. The restriction requirement made in the Office Action dated September 9, 2006, is maintained, deemed proper, and is made FINAL. In view of the forgoing, claims 30-33 and 37 are cancelled without prejudice. Claims 19, 21, 24 and 40 are amended to more positively recite embodiments of applicant's patentably novel invention. No claims are allowed.

Claims 1-29 and 38-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses the rejection of claims 1-29 and 38-40 under 35 U.S.C. 112, second paragraph.

The Office Action alleges that claim 1 teaches an "outer wall" and it further sets forth that said outer wall "defines a boundary" which is "within the boundary defined by the outer wall." Claim 1 on lines 13-15 recites:

"an outer wall between the first and second molds, the outer wall defining a boundary with the sheet supporting surface and the first end of the passageway within the boundary defined by the outer wall"

Claim 1 positively recites that "the sheet supporting surface and the first end of the passageway (are) within the boundary." Claim 1 does not recite that the "boundary" is within the "boundary."

Claim 40 is rejected under 35 U.S.C. 112, second paragraph, for reciting limitations that have insufficient antecedent bases for the limitations in the claim. Applicant has amended claim 40 to be dependent on claim 39. Support for the amendment to claim 40 is found, among other places, in the pending claims, in particular in claim 29.

Based on the forgoing, applicant respectfully requests admission of the amendment to, and consideration of, claim 40, and withdrawal of the rejection of claims 1-29 and 38-40 under 35 U.S.C. 112, second paragraph.

Applicant notes that claims 19, 21 and 22 are only rejected under 35 U.S.C. 112, second paragraph, and applicant has shown above that claims 1-29 and 38-40 meet the requirements of 35 U.S.C. 112, second paragraph. In view of the forgoing, claims 19 and 21 are amended to include all the limitations of the base claim and any intervening claims. Support for the

amendments to claim 19 and 21 is found, among other places, in the pending claims. Based on the forgoing applicant respectfully requests admission of the amendments to claims 19 and 22, and consideration and allowance of claim 19, 21 and 22.

Claim 24 is amended by inserting the definite article - the - before the second occurrence of the term "pressing station" indicating that the term "pressing station" was previously introduced. Support for the amendment to claim 24 is found, among other places, in claim 24. Based on the forgoing, applicant respectfully requests admission of the amendment to claim 24.

Claims 1, 2, 4-7, 12-18, 24-29, 38 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuster et al., U.S. Patent No. 5,713,976 (hereinafter also referred to as "Kuster"). Applicant notes that claims 25 and 26 are dependent on claim 23 which is rejected under 35 U.S.C. 103 (a) as being unpatentable over Kuster in view of Vanhuysee. The rejection of claims 25 and 26 is discussed below with the discussion of the rejection of claim 23.

Applicant respectfully traverse the rejection of Claims 1, 2, 4-7, 12-18, 24-29, 38 and 40 under 35 U.S.C. 102(b) as being anticipated by Kuster. Claim 1 on which claims 2, 4-7, 12-18, 24, 27, 28 and 38 are dependent recites, among other things:

A sheet bending apparatus comprising:

a first shaping mold having a major surface, a perimeter, a portion of the major surface within and spaced from the perimeter comprising a shaping member, and at least one passageway having a first end in the major surface between the perimeter and the shaping member, the shaping member having a predetermined shaped press face;

an outline shaping mold defined as a second mold, the second mold having a pair of spaced end rails and a pair of spaced central rails between the spaced end rails, the pair of spaced end rails and the pair of spaced central rails defining a boundary around an open area and portions of the end rails and the central rails providing a sheet supporting surface;

an outer wall between the first and second molds, the outer wall defining a boundary with the sheet supporting surface and the first end of the passageway within the boundary defined by the outer wall;

an elevator arrangement acting on at least one of the first and second molds to move the first and second molds relative to one another between a first position, wherein the first and second molds are spaced from one another and the outer wall is spaced from at least one of the first and second molds, and a second position, wherein the first and second molds, and the outer wall form an enclosure wherein the first shaping mold provides one side of the enclosure, and the second mold provides an opposite side of the enclosure with the sheet supporting surface of the second mold, the first end of the passageway and the shaping member of the first mold facing the enclosure, and ambient air is accessible to the enclosure at least through the open area, and

the at least one passageway having a second opening positioned outside the enclosure wherein the passageway provides fluid communication between interior and exterior of the enclosure.

The Office Action alleges that the Kuster apparatus presents a “major surface” of a first mold indicated by a bold black line in the annotated excerpt Figure 2 on page 5 of the Office Action, that the major surface defines the claimed features including the “perimeter” and the “shaping member” within and offset from the perimeter, and “at least one passageway in the major surface” in a “non-shaping area”, which lies between the shaping member and the perimeter.

Applicant respectfully submits that Kuster does not disclose a first shaping mold having the features recited in claim 1. More particularly, the Office Action in Figure 2 shows the first shaping mold as including the casing 13 and the bending block 11; the casing 13 includes the wall 43, which the Office Action identifies as the “perimeter.” The Office Action identifies the skirt 17 as the “outer wall between first and second molds.” Claim 1 recites, among other things, a first shaping mold having a major surface with a portion of the major surface within and spaced from the perimeter, and at least one

passageway having a first end in the major surface between the perimeter and the shaping member.

Applicant respectfully submits that there is no teaching in Kuster of a major surface that has (1) a portion that includes a shaping member having a press face and (2) the first end of at least one passageway in the portion of the major surface between the shaping member and the perimeter. As shown in Figure 2 of Kuster a space or void is provided between the “perimeter” (wall 43 of the casing 13) and the bending block 11. Kuster does show a major surface having the first end of at least one passageway as recited in claim 1. If the argument is made that the skirt 17 provides the major surface having the first end of the at least one passageway, then Kuster does not teach the outer wall recited in claim 1.

Applicant further respectfully submits that Kuster does not teach the feature of Claim 1 recited on lines 20-26 that includes, among other things, that the first and second molds and the outer wall are moved to a second position, wherein the first and second molds, and the outer wall form an enclosure wherein the first shaping mold provides one side of the enclosure, and the second mold provides an opposite side of the enclosure with the sheet supporting surface of the second mold, the first end of the passageway and the shaping member of the first mold facing the enclosure (see claim 14 for position of the second end of the passageway). If the skirt 17 of Kuster is considered to include portion of the major surface of the first mold recited in claim 1 having the first end of the passageway, the first end of the passageway is not facing an enclosure (see Fig. 2 of Kuster). If the argument is made that the skirt 17 is the portion of the major surface having the first end of the passageway, then there is no outer wall to form the enclosure. Since Kuster does not disclose the above features recited in applicant's claim 1, Kuster can not anticipate the subject matter of applicant's claims 1, 2, 4-7, 12-18, 24-28 and 38.

Claim 4 dependent on claim 1 recites, among other things, that the outer wall is mounted to the major surface of the first mold. As shown in Figure 2 of Kuster the skirt 17 referred to by the Office Action as the outer wall is not mounted to the major surface of the first mold as recited in claim 4 but is

mount to the wall 43 of the casing 13 (referred to as the perimeter by the Office Action) and spaced from the block 11.

Claim 6 dependent on claim 1 recites, among other things, that outer wall is mounted to the central rails and the end rails of the second mold. Kuster does teach or show in the drawings that the skirt 17 referred to as the outer wall by the Office Action is mounted to the annular bending ring 3 of Kuster. The Office Action brings applicant's attention to column 4, lines 23-38 of Kuster to support the position that that Kuster anticipates claim 6. Applicant respectfully submits that the statement of Kuster referred to by the Office Action is an invitation to invent because Kuster fails to teach how the gap can be completely eliminated and fails to disclose the appropriate means to close the space. Further if the gap is closed as suggested by the Office Action, the apparatus would not meet the features recited in lines 28-30 of claim 1, which recite that the passageway provides communication between the interior and exterior of the enclosure.

Claim 7 dependent on claim 1 recites, among other things, that the outer wall has one part of an aligning arrangement and the first mold and/or the second mold has another part of the aligning arrangement. There is no teaching in Kuster that the skirt 17, the block 11, or the bending ring 3 of Kuster have parts of an aligning arrangement.

Claim 13 dependent on claim 1 recites that the major surface of the first shaping mold is the second surface of a plate member; therefore the plate member would have the at least one passageway having a first end in the second surface of the plate member between the perimeter and the shaping member. In Figure 2 of Kuster, the skirt 17 is identified by the Office Action as the outer wall and there is no plate member disclosed in Kuster having a passageway between the wall 43 of the casing 13 identified by the Office Action as the perimeter and the shaping surface of the block 11 of Kuster. Kuster teaches that a skirt 17 identified by the Office Action as the outer wall is between the casing 13 and the mold 11.

Claims 24, 27 and 28 are dependent on claim 1. The arguments put forth to patentably distinguish claim 1 over Kuster are applicable to patentably distinguish claims 24, 27 and 28 over Kuster because the bending apparatus recited claim 1 is not anticipated by Kuster. Further, the discussions above to

patentably distinguish claims 4, 6, 7 and 13 over Kuster are applicable, among other discussions, to patentably distinguish claims 2, 5, 12, 14-18 and 38 over Kuster.

Independent claim 29 having claim 40 dependent thereon recites a sheet bending apparatus including, among other things:

- a chamber having outer walls, an entrance end, an exit end, an entrance door and an exit door;

- a first shaping mold mounted in the chamber, the first shaping mold having a major surface having a shaping member having a predetermined shaped press face;

- an outline shaping mold defined as a second mold mounted in the chamber in facing relationship to the first mold, the second mold having a pair of spaced end rails and a pair of spaced central rails between the spaced end rails, wherein portions of the end rails and the central rails provide a sheet supporting surface with an open area within the boundary of the sheet supporting surface;

- an elevator arrangement acting on at least one of the first and second molds to move the first and second molds relative to one another between a sheet receiving position where the first and second molds are spaced from one another, and a sheet pressing position where the first and second molds are closer to one another than when in the first position;

- a vacuum pump connected to the interior of the pressing chamber, and

- a conduit having one end connected to the open area between the shaping rails of the second mold and the opposite end connected to an air supply to move air through the open area of the second mold.

Kuster discloses an annular bending rings 3 but fails to teach as recited in claim 29 a conduit having one end connected to the open area of a second mold to move air through the open area of the second mold. Kuster teaches moving air through the opening of the annular bending rings 3 but does teach moving air through a conduit.

Based on the forgoing, applicant respectfully requests withdrawal of the rejection of claims 1, 2, 4-7, 12-18, 24-29, 38 and 40 under 35 U.S.C. 102(b) as being anticipated by Kuster.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuster. Applicant respectfully traverses the rejection of claim 39 under 35 U.S.C. 103(a) as being unpatentable over Kuster and requests reconsideration thereof. Claim 39 is dependent on claim 29. Claim 29 and Kuster were discussed above.

Claim 39 recites, among other things, that the elevator arrangement includes a piston to move the second mold toward and away from the first mold, and the conduit includes a passageway in the piston. The Office Action alleges that Kuster teaches the use of a piston to move a shaping mold. Applicant for the sake of discussion only and not admitting that Kuster teaches the use of a piston to move an outline mold, respectfully submits that Kuster does not teach a piston having a passageway to move air to the open area of an outline mold.

Based on the forgoing, applicant respectfully requests withdrawal of the rejection of claim 39 under 35 U.S.C. 103(a) as being unpatentable over Kuster.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claim 1 above and further in view of Jacques U.S. Patent No. 5,437,703 (hereinafter also referred to as "Jacques"). Applicant respectfully traverses the rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claim 1 above and further in view of Jacques and requests reconsideration thereof.

Claim 3 is dependent on claim 1. Claim 1 and Kuster were discussed above where applicant showed that Kuster does not anticipate the subject matter of claim 1. At best, Jacques discloses a ring mold, but fails to cure the defects of Kuster discussed above relating to, among other things, the outer wall, and the at least one passageway in the major surface between the perimeter and the shaping member recited in claim 1. Based on the forgoing, applicant respectfully requests withdrawal of the rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claim 1 above and further in view of Jacques.

Claims 8 through 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claims 1, 6, 7 and 12 above, and further in view of Skeen U.S. Patent No. 6,629,436B1 (hereinafter also referred to as "Skeen"). Applicant respectfully traverses the rejection of claims 8 through 11 under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claims 1, 6, 7, and 12 above and further in view of Skeen and requests reconsideration thereof.

Claims 8 through 11 are indirectly dependent on claim 1. Claims 1, 6 and 7, and Kuster were discussed above. In the discussions of claims 1, 6 and 7, applicant showed that Kuster does not anticipate the subject matter of claim 1, e.g. Kuster fails to teach, among other things, the outer wall, and the at least one passageway in the major surface between the perimeter and the shaping member recited in claim 1. At best, Skeen discloses a bending ring mold having rails, but fails to cure the defects of Kuster discussed above. Based on the forgoing, applicant respectfully requests withdrawal of the rejection of claims 8 through 11 under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claims 1, 6, 7, and 12 above and further in view of Skeen.

Claims 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claims 1 and 17 above, and further in view of Vanhuysee U.S. Patent No. 5,276,173B1 (hereinafter also referred to as "Vanhuysee"). As noted above, claims 25 and 26 are dependent on claim 1 through claim 23. Applicant respectfully traverses the rejection of claims 20 and 23 under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claims 1 and 17 above and further in view of Vanhuysee and requests reconsideration thereof.

Claims 20 and 23 are indirectly dependent on claim 1. Claims 1 and 17, and Kuster were discussed above. In the discussion of claim 1 and Kuster, applicant showed that Kuster does not anticipate the subject matter of claim 1. At best, Vanhuysee discloses a covering for a mold surface, but fails to cure the defects of Kuster discussed above to show that Kuster does not anticipate applicant's claim 1. Since Vanhuysee does not cure the defects of Kuster, the combination of Kuster and Vanhuysee can not render the claimed

subject matter of claims 20, 23, 25 and 26 obvious in view of Kuster and Vanhuysee.

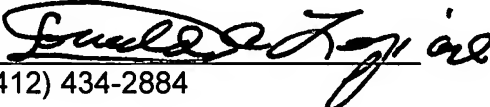
Further, claim 20 recites, among other things, that the openings of the first end of the second plurality of passageways is equal to or less than the size of the opening of the mesh cloth. The Office Action alleges that it is obvious that too light a weave restricts air flow and too loose a weave can result in marring the glass surface; however, the Office Action has failed to show any support for the allegation. Nevertheless, assuming for the sake of discussion only and not agreeing with the allegation of the Office Action, there is no teaching in Kuster and Vanhuysee that the size of the weave opening is equal to or less than the opening of the end of the passageways. More particularly, applicant has determined that the size of the passageway opening and the size of the weave both have to be considered to reduce the marring of a glass surface, and this discovery is recited in claim 20. Still further, there are no teachings in Kuster and Vanhuysee of the features recited in claims 25 and 26 relating to the upper and lower elongated rods to move the molds toward and away from one another.

Based on the forgoing, applicant respectfully requests withdrawal of the rejection of claims 20 and 23 under 35 U.S.C. 103(a) as being unpatentable over Kuster as applied to claims 1 and 17 above and further in view of Vanhuysee, and requests allowance of claims 1-18, 20, 23-29 and 38-40.

This amendment represents a sincere effort to place this application in condition for allowance. In the event issues remain, the Examiner is invited to call Mr. Andrew Siminerio at 412-434-4645 or the undersigned to discuss those issues before further action regarding the application is taken.

Respectfully submitted,

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